PUB-NO: EP000519087A1

DOCUMENT-IDENTIFIER: EP 519087 A1

TITLE: Method for pretreating the surface of a medical device.

PUBN-DATE: December 23, 1992

INVENTOR-INFORMATION:

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APPL-NO: EP91108146

APPL-DATE: May 21, 1991

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INT-CL (IPC): A61L033/00

EUR-CL (EPC): A61L033/00 ; A61L033/00

US-CL-CURRENT: 128/897, 427/2.12 , 427/2.24 , 427/2.25 , 427/2.3 , 604/266

ABSTRACT:

A method for pretreating the surface of a medical device, and of applying a polymer coating, in order to apply a biological coating in a further step, uses the plasma polymerization technique or the plasma grafting technique. A functional monomer, i.e. a monomer with a functional group, or a mixture of a pure monomer and a substance able to provide the required functional groups under spark discharge or under the influence of charge carriers, results in a polymer coating with free functional groups, which may react with the biological coating, thus providing optimum adhesion of the biological coating. The process is carried out in a pressure-tight chamber (39) with an inlet (48) for the functional monomer under low pressure and electromagnetic radiation provided by a radiation source (45). <IMAGE>

PAT-NO: JP361246204A

DOCUMENT-IDENTIFIER: JP 61246204 A

TITLE: SURFACE TREATMENT

PUBN-DATE: November 1, 1986

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APPL-DATE: April 24, 1985

INT-CL (IPC): C08F002/52, C08G085/00 , C08J007/00 , C08J007/12 , D06M007/02 , D06M014/18

US-CL-CURRENT: 427/255.24

ABSTRACT:

PURPOSE: To treat the surface of a substrate uniformly and beautifully in a gas phase with an ultra-thin film excellent in hydrophilicity, antistatic property and mechanical strength, by plasma-polymeriziang a caboxylic acid such as (meth) acrylic acid on the surface of the substrate and after-treating it with NH<SB>3</SB> gas.

CONSTITUTION: A substrate 2 such as woven polyester fabric is placed within a reaction tube 1 and the pressure in the tube 1 is decreased to 10<SP>-3</SP>∼1.0 Torr by means of a rotary pump 7 and a diffusion pump 6. An equimolar gas mixture comprising vapor of (meth) acrylic acid monomer sent from a monomer reservoir 10 and regulated by a needle valve 8 and CO<SB>2</SB>gas sent from a CO<SB>2</SB> gas cylinder 13 and regulated by a needle valve 8' is fed through an inlet 12 to the tube 1 and plasma-polymerized at a temperature of 20°C for about 1 min by starting discharge by using an induction coil and a high-frequency electric source and thereby generating energy of 50∼400 MJ per kg of the carboxylic acid. After completion of the plasma polymerization, the tube 1 is vacuated and fed through the inlet 12 with NH<SB>3</SB> gas sent from a NH<SB>3</SB> gas cylinder 14 through valves

L Number	Hits	S arch T xt	DB	Time stamp
55	2224	plasma adj (polymeriz$7)	USPAT; US-PGPUB	2003/10/19 16:35
56	189622	acrylic	USPAT; US-PGPUB	2003/10/19 16:30
57	753	(plasma adj (polymeriz$7)) and acrylic	USPAT; US-PGPUB	2003/10/19 16:31
58	4456	(superoxide adj dimutase) or sod	USPAT; US-PGPUB	2003/10/19 16:31
59	123	superoxide adj dimutase	USPAT; US-PGPUB	2003/10/19 16:45
60	90197	acrylic adj acid	USPAT; US-PGPUB	2003/10/19 16:31
61	1	(acrylic adj acid) and (superoxide adj dimutase)	USPAT; US-PGPUB	2003/10/19 16:32
62	155936	carboxyl or carboxy	USPAT; US-PGPUB	2003/10/19 16:32
63	41	(superoxide adj dimutase) and (carboxyl or carboxy)	USPAT; US-PGPUB	2003/10/19 16:33
64	100329	(functional adj group) or functionalize or functionalized	USPAT; US-PGPUB	2003/10/19 16:35
65	18	(superoxide adj dimutase) and ((functional adj group) or functionalize or functionalized)	USPAT; US-PGPUB	2003/10/19 16:34
66	371	(plasma adj (polymeriz$7)) and (acrylic adj acid)	USPAT; US-PGPUB	2003/10/19 16:35
67	184	((plasma adj (polymeriz$7)) and (acrylic adj acid)) and ((functional adj group) or functionalize or functionalized)	USPAT; US-PGPUB	2003/10/19 16:35
68	7842	((functional adj group) or functionalize or functionalized).ab.	USPAT; US-PGPUB	2003/10/19 16:36
69	15	(((functional adj group) or functionalize or functionalized).ab.) and (plasma adj (polymeriz$7)) and (acrylic adj acid)	USPAT; US-PGPUB	2003/10/19 16:39
70	178060	carboxylic adj acid	USPAT; US-PGPUB	2003/10/19 16:40
71	19	(((functional adj group) or functionalize or functionalized).ab.) and (carboxylic adj acid) and (plasma adj (polymeriz$7))	USPAT; US-PGPUB	2003/10/19 16:40
78	7	("4587329" | "4693799" | "5342693" | "5393795" | "5444811" | "5449383" | "5723219").PN.	USPAT	2003/10/19 16:43
79	8	superoxide adj dimutase	EPO; JPO; DERWENT	2003/10/19 16:45
80	41527	(functional adj group) or functionalize or functionalized	EPO; JPO; DERWENT	2003/10/19 16:45
81	1491	plasma adj (polymeriz$7)	EPO; JPO; DERWENT	2003/10/19 16:45
82	24	((functional adj group) or functionalize or functionalized) and (plasma adj (polymeriz$7))	EPO; JPO; DERWENT	2003/10/19 16:47
83	184334	(acrylic or carboxylic) adj acid	EPO; JPO; DERWENT	2003/10/19 16:47
84	20	(plasma adj (polymeriz$7)) and ((acrylic or carboxylic) adj acid)	EPO; JPO; DERWENT	2003/10/19 16:47